Foundations of Education Module One

- ✓ Philosophy – *philo sophia* or love of wisdom

- ✓ Sociology – scientific study of human social behaviour

- ✓ Psychology – scientific study of human and animal mental functions and behaviours.

Philosophy is the study of general and fundamental problems.

– *en.wikipedia.org/wiki/**Philosophy***

- Philosophy differs from other ways of addressing fundamental questions (such as **mysticism**, **myth**, or the **arts**) by its critical, generally systematic approach and its reliance on *rational argument*
- Philosophy
  Philosophy of education is the philosophical study of the purpose, process, nature and ideals of education.

- ✓ What constitutes upbringing?
- ✓ What is education?
- ✓ What is the relationship between educational theory and practice?

Philosophical spheres

- Traditional fields: Ontology, ethics, epistemology

- Approaches: speculative, prescriptive, analytical
- Philosophy of Education is an *applied field.*

Sociology

- ✓ Sociology looks at human groups, how they work and the influence they have on members.
- ✓ Sociology of Education – the control and management of knowledge(Ioan Davies); classroom interaction

Psychology of Education

Several branches – clinical, social psychology, health, sport, etc.

How students learn in educational settings.

Psychology of Education

Concerns:

- Intelligence
- Memory
- Cognitive development
- Student motivation
- Conditions for learning

Sociology and Psychology use observation, survey, sampling

Module 2

3 theorists – Plato, Rousseau, Dewey

PLATO

- *The purpose of education is to help the students to grow and develop their character and ability to do good.*
- Learning is the development of the intellect, the emotions and the will.
- The curriculum must include training of the spirit (music) and the body (gymnastics) and the more difficult subjects added as students mature.
- Male and female educated equally according to their capabilities.
- A just society always tries to give the best education to all of its members in accordance with their ability.

- "*The quality of the State depends on the kind of education that members of the state receive*."

JEAN JACQUES ROSSEAU

- Education as corrupting and the child should interact with nature as the first educator – "natural education"
- The purpose of education is to prepare the civilised man and woman for each other.
- Education should be centred on child and not content.

- The noble savage. Man is naturally good; society's institutions have made him bad
- 5 stages of development- infancy, boyhood, early adolescence, adolescence, manhood.
- Children are amoral and unreasonable and should not read until 12 years old.

- Sophie is to be educated to tend to the welfare of other; defines herself through capacity to nourish and nurture others.

DEWEY -- "every teacher should recognize the dignity of his calling"

- Education is *the art of giving shape to human powers and adapting them to human service.*
- The child as a "bundle of intellectual, emotional and moral potential" with teacher as guide
- Dewey: the greatest defect of instruction today is that children leave school with a mental perspective which lacks faith in the existence of moral principles which are capable of effective application.
- Teach the process of thinking – as well as to see the relations between subjects, No demarcation of subject areas
- Methods should afford reciprocity, cooperation and positive personal achievement.
- Society as most influential educator; therefore school as moral educator and fostering of character through a democratic school atmosphere
- There are no absolute values and the value of moral principle is to be found in their utility.

Module 3 Rationality

Definition

In philosophy, rationality and reason are the key methods used to analyze the data gathered through systematically gathered observations.

- According to Kuhn, scientific practice is divided into two phases, called *normal* science and *revolutionary* science. During normal science, the dominant paradigm is neither questioned nor seriously tested. Rather, the members of the scientific community employ the paradigm as a tool for solving outstanding problems.

- Occasionally, the community will encounter especially resistant problems, or anomalies, but if a paradigm encounters only a few anomalies there is little reason for anxiety among its proponents. Only as the anomalies accumulate will the community pass into a state of crisis, which may in turn push the community into the phase of *revolutionary science.*

Lakatos**'s** theory of rationality is based on the idea of the research programme, which is a sequence of theories characterized by

- a *hard-core* (the features of the theories that are essential for membership in the research programme),
- the *protective belt* (the features that may be altered),
- the *negative heuristic* (an injunction not to change the hard core), and
- the *positive heuristic* (a plan for modifying the protective belt).

The protective belt is altered for two reasons:

- In its early stages, a research programme will make unrealistic assumptions (i.e. Newton's early assumption that the sun and the earth are point masses). In order to make the programme more **realistic**. It becomes testable only when it has achieved a sufficient degree of realism.
- Once the programme has reached the phase of testability, the protective belt is altered

- However, not all alterations to the protective belt are equal. If an alteration not only fixes the problem at hand but also allows the research programme to make a *novel prediction*, then the alteration is said to be progressive.
- If the alteration is no more than an ad hoc manoeuvre, that is, if it does not lead to any novel predictions, then it is regarded as *degenerate*.

Darwin

- Darwin's book introduced the scientific theory that populations evolve over the course of generations through a process of natural selection. It presented a body of evidence that the diversity of life arose by common descent through a branching pattern of evolution

  http://en.wikipedia.org/wiki/On_the_Origin_of_Species

Natural Selection

- "Currently we accept the general idea that biological development can be explained by mutations in combination with natural selection. In its essential parts, therefore, Darwin's theory of development has been accepted. In Darwin's time mutations were not known about; their discovery has led to extensive modifications of his theory, but it has also eliminated the most important objections to it. ...

- We are beginning to see that the awesome wonder of the evolution from amoeba to man - for it is without a doubt an awesome wonder - was not the result of a mighty word from a creator, but of a combination of small, apparently insignificant processes. The structural change occurring in a molecule within a chromosome, the result of a struggle over food between two animals, the reproduction and feeding of young - such are the simple elements that together, in the course of millions of years, created the great wonder. This is nothing separate from ordinary

life. The wonder is in our everyday world, if only we have the ability to see it." (Alfvén's *Atom, Man, and the Universe*.)

http://www.blupete.com/Literature/Biographies/Science/Darwin.htmhttp://www.blupete.com/Literature/Biographies/Science/Darwin.htm

Darwin's Contribution

- We will let Julian Huxley sum up Darwin's place in the history of science: "Darwin's work ... put the world of life into the domain of natural law. It was no longer necessary or possible to imagine that every kind of animal or plant had been specially created, nor that the beautiful and ingenious devices by which they get their food or escape their enemies have been thought out by some supernatural power, or that there is any conscious purpose behind the evolutionary process. If the idea of natural selection holds good, then animals and plants and man himself have become what they are by natural causes, as blind and automatic as those which go to mould the shape of a mountain, or make the earth and the other planets move in ellipses round the sun. The blind struggle for existence, the blind process of heredity, automatically result in the selection of the best adapted types, and a steady evolution of the stock in the direction of progress...

- Darwin's work has enabled us to see the position of man and of our present civilization in a truer light. Man is not a finished product incapable of further progress. He has a long history behind him, and it is a history not of a fall, but of an ascent. And he has the possibility of further progressive evolution before him.

- Further, in the light of evolution we learn to be more patient. The few thousand years of recorded history are nothing compared to the million years during which man has been on earth, and the thousand million years of life's progress.

- And we can afford to be patient when the astronomers assure us of at least another thousand million years ahead of us in which to carry evolution onwards to new heights."

- For **Popper**, a theory is scientific only if it is refutable by a conceivable event.
- Popper, then, repudiates induction, and rejects the view that it is the characteristic method of scientific investigation and inference, and substitutes *falsifiability* in its place.
- It is easy, he argues, to obtain evidence in favour of virtually any theory, and he consequently holds that such 'corroboration', as he terms it, should count scientifically only if it is the positive result of a genuinely 'risky' prediction, which might conceivably have been false.
- In a word, an exception, far from 'proving' a rule, conclusively refutes it.
- Every genuine scientific theory then, in Popper's view, is *prohibitive*, in the sense that it forbids, by implication, particular events or occurrences. As such it can be tested and falsified, but never logically verified.
- Thus Popper stresses that it should not be inferred from the fact that a theory has withstood the most rigorous testing, for however long a period of time, that it has been verified; rather we should recognise that such a theory has received a high measure of corroboration and may be provisionally retained as the best available theory until it is finally falsified (if indeed it is ever falsified), and/or is superseded by a better theory.

- Popper has always drawn a clear distinction between the *logic* of falsifiability and its *applied methodology*.
- The logic of his theory is utterly simple: if a single ferrous metal is unaffected by a magnetic field it cannot be the case that all ferrous metals are affected by magnetic fields. Logically speaking, a scientific law is conclusively falsifiable although it is not conclusively verifiable.

- Methodologically, however, the situation is much more complex: no observation is free from the possibility of error—consequently we may question whether our experimental result was what it appeared to be.